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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,263	07/28/2003	Josef Ocenasek	1052.025	5423

22186 7590 10/12/2005

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EXAMINER	
VUONG, QUOCHIEN B	

ART UNIT	PAPER NUMBER
2685	

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/628,263	OCENASEK ET AL.	
	Examiner	Art Unit	
	Quochien B. Vuong	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,7,8,10 and 12* is/are rejected.

7)☒ Claim(s) *3,5,6,9,11 and 13-15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *07/28/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 07/28/2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 4, 7, 8, 10, and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Sahlman (US 6,934,341).

Regarding claims 1 and 7, Sahlman (figure 2) discloses a method and apparatus for reducing spurious emissions in an amplified signal, comprising amplifying a first copy of an input signal by a first amplifier sub-system (205); amplifying one or more other copies of the input signal by one or more other amplifier sub-systems (210); combining outputs from the first amplifier sub-system and the one or more other amplifier sub-systems to generate a combined amplified output signal (211), wherein the first amplifier sub-system: applies pre-distortion (202) to the first copy of the input signal to generate a

pre-distorted first copy of the input signal, wherein the pre-distortion of the first copy of the input signal is based on the combined amplified output signal; and amplifies the pre-distorted first copy of the input signal to generate the output from the first amplifier sub-system (column 2, line 61 – column 3, line 20).

Regarding claims 2 and 8, Sahlman discloses wherein a portion of the combined amplified output signal is tapped off and fed back to the first amplifier sub-system for use in pre-distorting the first copy of the input signal (column 3, lines 1-20).

Regarding claims 4 and 10, Sahlman discloses wherein each other amplifier sub-system amplifies its copy of the input signal without performing any pre-distortion (column 3, lines 8-18, and figure 2).

Regarding claim 12, Sahlman discloses wherein the one or more other amplifier sub-systems comprise a second amplifier sub-system adapted to amplify a second copy of the input signal; and the combiner is adapted to combine the outputs from the first and second amplifier sub-systems to generate the combined amplified output signal (column 2, line 61 – column 3, line 20).

Allowable Subject Matter

4. Claims 3, 5, 6, 9, 11, and 13-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 3 and 9, Sahlman discloses the method and apparatus of claims 1 and 7 above, respectively. However, Sahlman fails to teach or fairly suggest

the method and apparatus wherein each other amplifier sub-system: applies pre-distortion to its copy of the input signal to generate a pre-distorted copy of the input signal, wherein the pre-distortion of its copy of the input signal is based on only the output from said each other amplifier sub-system; and amplifies the pre-distorted copy of the input signal to generate the output from said each other amplifier sub-system.

Regarding claims 5 and 11, Sahlman discloses the method and apparatus of claims 1 and 7 above, respectively. However, Sahlman fails to teach or fairly suggest the method and apparatus wherein during initial operations, each amplifier sub-system pre-distorts its copy of the input signal based on only the output from said each amplifier sub-system; and after the initial operations, the first sub-system pre-distorts its copy of the input signal based on the combined amplified output signal.

Regarding claims 6 and 15, Sahlman discloses the method and apparatus of claims 1 and 7 above, respectively. However, Sahlman fails to teach or fairly suggest the method and apparatus further comprising performing pre-distortion by one of the one or more other amplifier sub-systems based on the combined amplified output signal in case of failure of the pre-distortion processing of the first amplifier sub-system.

Regarding claim 13, Sahlman discloses the apparatus of claim 7 above. In addition, Sahlman discloses a first splitter adapted to split the input signal into the first and second copies of the input signal; a first tap adapted to tap off a portion of the combined amplified output signal (column 2, line 61 – column 3, line 20; and figure 2). However, Sahlman fails to teach or fairly suggest the apparatus further comprising a second splitter adapted to split the portion of the combined amplified output signal into

two copies, wherein each copy of the portion of the combined amplified output signal is fed back to a different one of the first and second amplifier sub-systems.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McNicol (US 5,770,971) discloses distortion compensation control for a power amplifier.

Kobayashi (US 5,808,511) discloses active feedback pre-distortion linearization.

Belcher et al. (US 5,892,397) disclose adaptive compensation of RF amplifier distortion by injecting predistortion signal derived from respectively different functions of input signal amplitude.

Stonick et al. (US 5,900,778) disclose adaptive parametric signal predistorter for compensation of time varying linear and nonlinear amplifier distortion.

Fizpatrick et al. (Us 6,266,517) disclose method and apparatus for correcting distortion in transmitter.

Demir et al. (US 6,907,025) disclose adjusting the amplitude and phase characteristics of transmitter generated wireless communication signals in response to base station transmit power control signal and known transmitter amplifier characteristics.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quochien B. Vuong whose telephone number is (571) 272-7902. The examiner can normally be reached on M-F 9:30-18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QUOCHIEN B. VUONG
PRIMARY EXAMINER

Quochien B. Vuong
Oct. 01, 2005.